Kaufman, Dani
Mutation invariant functions on cluster ensembles. (English) Zbl 07740054

Summary: We define the notion of a mutation invariant function on a cluster ensemble with respect to a group action of the cluster modular group on its associated function fields. We realize many examples of previously studied functions as elements of this type of invariant ring and give many new examples. We show that these invariants have geometric and number theoretic interpretations, and classify them for ensembles associated to affine Dynkin diagrams. The primary tool used in this classification is the relationship between cluster algebras and the Teichmüller theory of surfaces.

MSC:
13F60 Cluster algebras
30F60 Teichmüller theory for Riemann surfaces

Keywords:
cluster algebras; cluster ensembles; Markov numbers; Teichmüller spaces; Somos sequences

Full Text: DOI arXiv

References:
[4] Drummond, James; Foster, Jack; Gürdoğan, Ömer; Kalousios, Chrysostomos, Algebraic singularities of scattering amplitudes from tropical geometry (2019), available at - Zbl 1462.81204

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